

REMARKS

In view of the above amendments and the following remarks, reconsideration of the outstanding office action is respectfully requested.

Electrofusion and electroporation of cells involves application of an electrical current to cells. In many instances, cells are aligned prior to applying a direct electrical current. Alignment may be done manually, for example, by aspiration or vacuum suction. Alignment may also be performed by applying an alternate electrical current. When alignment is done by applying alternate current, cell survival is drastically reduced. The present invention provides a tool having the dual capacity to manually align cells and deliver direct current to cells.

By the above amendments, new claims 21-45 have been added. New claim 21 requires that the first (medial) end of the tube be *open*. Support for this feature is found in the specification at page 3, lines 25-26. New claim 32 is drawn to a system for manipulating cells or cellular components. Support for this claim is found in the specification at page 4, line 28 to page 5, line 6. Support for new claim 33 is found in the specification at page 5, lines 2-3. Support for claim 41 is found in the specification at page 5, lines 7-16. Support for the subject matter of the remaining new claims is found in the originally-filed claims.

The rejection of claims 1, 4, 8-10, and 13-16 under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,185,922 to Pendley et. al. ("Pendley"), is respectfully traversed in view of the above amendments and the following remarks.

Pendley teaches a microelectrode consisting of a conductive filament (wire) inside a glass tube with one end of the wire being flattened against and looped around the outer wall of one end of the tube, and the other end of the wire being *tapered* and *sealed* in intimate contact with the other end of the tube. The tapered end constitutes the microelectrode tip. In contrast, claim 1 of the present invention relates to an electrofusion microelectrode comprising "a conducting filament encased in a tube, wherein a first (medial) end of the filament has a tip which protrudes from a first (medial) end of the tube, the first (medial) end of the filament being *broadened* at the tip, and wherein a second (distal) end of the filament protrudes from a second (distal) end of the tube and wherein the second (distal) end of the filament is configured to allow the filament to remain relatively fixed within the tube and to allow connection to a direct power source (emphasis added)." Support for the broadened tip limitation is found in Figures 1-2 and at page 3, lines 16-26 of the

specification. Thus, Pendley cannot be said to anticipate claim 1 or those claims depending from it.

Pendley also cannot be said to anticipate new claims 21-44. New claim 21 relates to an electrofusion microelectrode comprising “a conducting filament in a tube, wherein a first (medial) end of the filament protrudes from a first (medial) end of the tube, the first (medial) end of the tube being *open*, and wherein a second (distal) end of the filament protrudes from a second (distal) end of the tube, wherein the second (distal) end of the filament is configured to allow the filament to remain relatively fixed within the tube and to allow connection to a direct current power source (emphasis added).” Claim 32 calls for “a conducting filament in a tube, wherein a first (medial) end of the filament protrudes from a first (medial) end of the tube, the first (medial) end of the tube being *open*, and wherein a second (distal) end of the filament protrudes from a second (distal) end of the tube, wherein the second (distal) end of the filament is configured to allow the filament to remain relatively fixed within the tube, wherein the second (distal) end of the filament from the first electrofusion microelectrode is connected to the positive terminal of the direct current power source and the second (distal) end of the filament from the second electrofusion microelectrode is connected to the negative terminal of the direct current power source” (emphasis added). Since Pendley’s microelectrode has a conductive filament which is *sealed* in an insulator tube at the microelectrode tip (column 2, lines 1-6), it cannot be said to anticipate the subject matter of new claims 21-44 which call for a tube that is *open*.

Accordingly, the rejection under 35 U.S.C. § 102(b) for anticipation by Pendley should be withdrawn.

The rejection of claims 1, 4, 5, 7, 9, 10, and 13-15 under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,505,728 to Ellman et. al. (“Ellman”), is respectfully traversed in view of the above amendments and the following remarks.

Ellman teaches an electrosurgical electrode consisting of a handpiece with an electrically insulating pen-like member having an electrically conductive tube running lengthwise through it and configured to receive a conducting filament having two wire supports and a bare active wire suspended between the two wire supports (Figure 1). The use of “collet type fittings at the handpiece front to hold the metal shaft in position” (column 2, lines 26-27, emphasis added).

Claim 1 of the present invention relates to an electrofusion microelectrode comprising “a conducting filament encased in a tube, wherein a first (medial) end of the

filament has a tip which protrudes from a first (medial) end of the tube, the first (medial) end of the filament being broadened at the tip, and wherein a second (distal) end of the filament protrudes from a second (distal) end of the tube and wherein the second (distal) end of the *filament is configured* to allow the filament to remain relatively fixed within the tube and to allow connection to a direct power source” (emphasis added). Ellman cannot be said to anticipate claim 1, because it fails to teach an electrode wherein the conductive filament is *configured* at its distal end to allow the filament to remain relatively fixed within the tube. Ellman also fails to teach the features of dependent claim 16 which requires that the second (distal) end of the conducting filament be “bent or looped towards the outer wall of the tube” or be “wrapped around the outer wall of the tube.”

For substantially these same reasons, Ellman also cannot be said to anticipate new claims 21-44. New claim 21 relates to an electrofusion microelectrode comprising “a conducting filament in a tube, wherein a first (medial) end of the filament protrudes from a first (medial) end of the tube, the first (medial) end of the tube being open, and wherein a second (distal) end of the filament protrudes from a second (distal) end of the tube, wherein the second (distal) end of the *filament is configured* to allow the filament to remain relatively fixed within the tube and to allow connection to a direct current power source” (emphasis added). Dependent claim 31 designates the configuration of the second (distal) end of the conducting filament as “being bent or looped towards the outer wall of the tube or being wrapped around the outer wall of the tube.” Claim 32 calls for “a conducting filament in a tube, wherein a first (medial) end of the filament protrudes from a first (medial) end of the tube, the first (medial) end of the tube being open, and wherein a second (distal) end of the filament protrudes from a second (distal) end of the tube, wherein the second (distal) end of the *filament is configured* to allow the filament to remain relatively fixed within the tube, wherein the second (distal) end of the filament from the first electrofusion microelectrode is connected to the positive terminal of the direct current power source and the second (distal) end of the filament from the second electrofusion microelectrode is connected to the negative terminal of the direct current power source” (emphasis added). Dependent claim 44 designates the configuration of the second (distal) end of the conducting filament as “being bent or looped towards the outer wall of the tube or being wrapped around the outer wall of the tube.” Thus, claims 21 and 32 are patentable for substantially the same reasons as claim 1 is, and claims 31 and 44 are patentable for substantially the same reasons as claim 16.

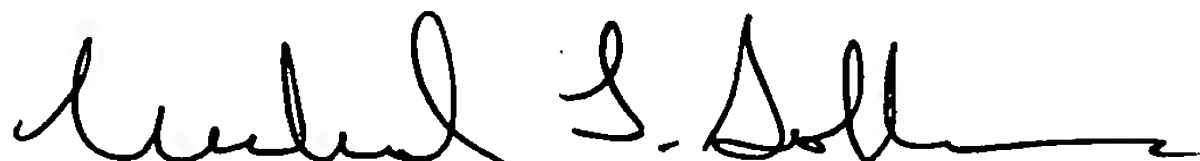
Since Ellman does not anticipate the claims, the rejection under 35 U.S.C. § 102(b) based on this reference should be withdrawn.

The rejection of claims 13-15 under 35 U.S.C. § 112 (2nd para.), for indefiniteness, is respectfully traversed in view of the above amendments.

In view of all of the foregoing, applicants submit that this case is in condition for allowance and such allowance is earnestly solicited.

Respectfully submitted,

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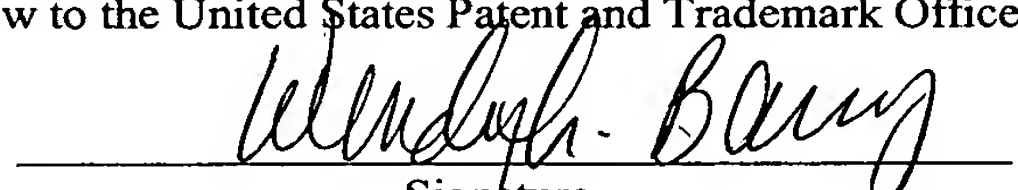
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